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# A Study of the Characteristics and Movement of Students in Subject Matter Ability Groups in a Three-Year Senior High School

Ralph J. Waldrop

*Eastern Illinois University*

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A STUDY OF THE CHARACTERISTICS AND MOVEMENT  
OF STUDENTS IN SUBJECT MATTER ABILITY GROUPS  
IN A THREE-YEAR SENIOR HIGH SCHOOL  
(TITLE)

BY

RALPH J. WALDROP

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
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I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING  
THIS PART OF THE GRADUATE DEGREE CITED ABOVE

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DATE

ADVISER

August 4, 1966  
DATE

DEPARTMENT HEAD

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## CHAPTER I

### INTRODUCTION

#### Statement of Purpose

The purpose of this study is to describe and evaluate the characteristics and movement of students in subject-matter ability groups for three years in a senior high school. The subjects English and Social Science are used. The characteristics and movement are described and evaluated according to students who remained in placement in each ability group and students who deviated from each ability group.

The sampling was selected from the 12th grade class of the school year of 1965-1966, at Springfield High School, Springfield, Illinois. Each student in the population for the study was selected on the conditions that he or she must have:

- (a) attended Springfield High School for three years.
- (b) attended one of three junior high schools for three years.
- (c) attended a Springfield elementary school for the second semester of the 6th grade.
- (d) had recorded results on a 6th grade mental abilities and achievement test.
- (e) had recorded results on a 9th grade aptitude test.
- (f) had recorded results on an 11th grade aptitude test.

Springfield High School is located in Sangamon County in the west-central section of Illinois. This school is one of the three public high schools in the Springfield School District. The total enrollment of students of 2,285 as of May, 1966, is approximately one-half of the students attending public high schools in the Springfield District.

The Springfield School District has five junior high schools. These junior high schools consist of the 7th, 8th, and 9th grades. Springfield High is fed by Franklin, Grant, and Jefferson Junior High Schools. The students who attend Franklin and Grant must attend Springfield High School for the 10th, 11th, and 12th grades of public schooling. Jefferson Junior High is populated by students living in areas where they either must attend Springfield High School, must attend another Public High School, or live in an area where they may select one of the two.

#### Sources of Data

The library of Eastern Illinois University and the State Library of Illinois were used to obtain and survey related material for this study. The Administrative Center of the Springfield School System was used to obtain information on the tests used as selectors. Personal interviews were held with the Springfield High School counselors to clarify placement procedures and detailed information. The school records also were used to gather information.



### Treatment of Data

Information gathered on the students included name, sex, date of birth, English and Social Science course code numbers, and grades. Test selectors used were:

- (a) Otis Quick-Scoring Mental Ability Test  
(Administered at the 6th grade level)
- (b) Stanford Achievement Test  
(Administered at the 6th grade level)
- (c) Verbal Reasoning section of the Differential Aptitude Tests (Administered at the 9th grade level)
- (d) Verbal Reasoning section of the Differential Aptitude Test used by the University of Illinois as a section of the Illinois Statewide High School Testing Program (Administered at the 11th grade level)

Each test was administered at approximately the same time to the population.

### Method

The descriptive method will be used to present the research material and findings of this study. The scores and percentile ranks used in this study will be described according to the median and range of each distribution.

### Definitions

The following terms used in this study are entered at this point for clarification:

- (a) English - all courses on school record labeling a course as "English."
- (b) Social Science - courses on the school records which were grouped and labeled "American History", "World History", and "American Government."

- (c) Ability - students possessing the necessary qualifications to perform.
- (d) Subject-matter grouping - students grouped according to ability in a subject area.
- (e) Ability grouping - students grouped according to ability.
- (f) Movement - students re-scheduled into a different subject-matter group.
- (g) Placement - the first subject-matter group into which a student is scheduled.
- (h) I.Q. (Intelligence Quotient) - a measure of mental ability.
- (i) Grade-equivalent - median sub-test score on the Stanford Achievement Test.<sup>1</sup>
- (j) Verbal Reasoning - "is a measure to understand concepts framed in words" and "measures those functions which are associated with general intelligence."<sup>2</sup>
- (k) Letter grade - teacher's estimate of a student's accomplishment in a particular class (A=excellent, B=good, C=average, D=poor, and E=failing).

#### Delimitations

It is recognized by this writer that certain characteristics exist that are not always true indicators. Test scores and grades sometimes do not show true capabilities or psychological and environmental factors. The range and the

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<sup>1</sup>Truman L. Kelley et al., Stanford Achievement Test, Directions for Administering (New York: Harcourt, Brace & World, Inc., 1964), p. 18.

<sup>2</sup>George K. Bennett, Harold G. Seashore, and Alexander G. Wesman, Differential Aptitude Tests (New York: The Psychological Corporation, 1959), pp. 5-6.

median score or percentile ranking may be deceptive when working with a small distribution. Movement may occur for administrative reasons, pupil-teacher conflict, or course conflict.

#### Significance of the Problem

Ability grouping is becoming more appealing to the public schools of today. Although its titles and method of operation are many, it is hoped that this study will be of help to educators and laymen in the evaluation of ability grouping.

## CHAPTER II

### RELATED RESEARCH ON ABILITY GROUPING

Ability grouping is rapidly drifting across our educational systems. The National Education Association reported in 1960 that "fewer and fewer schools are now operating so rigidly that no special arrangements are provided for anyone. Nonetheless, there are some schools where the so-called educational lockstep is still the order of the day."<sup>3</sup>

There exists valid research that ascertains ability grouping does what it is supposed to do. There is also valid research that ascertains ability grouping does not do what it is supposed to do. Auld<sup>4</sup> compared achievement of a group of fifty-eight 6th graders who had been grouped in categories of "high", "average", and "low" with a control group of another similar school. When they were measured on the Metropolitan Achievement Test at the end of the 6th grade, Auld could find no statistically significant difference

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<sup>3</sup>National Education Association and the National Association of Secondary-School Principals, Administration Procedures and School Practices for the Academically Talented Student (Washington, D. C., NEA, 1960), p. 63.

<sup>4</sup>Jo Taylor Auld, "The Grouped and Ungrouped", Educational Report IV (University of South Carolina, 1961), pp. 1-2.

between the two groups. She also reported that the low ability students in the ungrouped 6th grade showed a significantly higher achievement than the low group in the other school.

In Barton's<sup>5</sup> study comparing 9th grade English classes, grouped and ungrouped, no differences were found in their achievements. In a study of college students, Abramson<sup>6</sup> found no significant differences between college level sophomore students who had attended high schools with no grouping, who were grouped in one or two major subjects, or who were admitted in high schools for the gifted only.

The proponents of ability grouping present research findings that are equally impressive. The California State Department of Education<sup>7</sup> found that students grouped in seventeen different types of programs showed greater average gains than those in the control groups. Terman and Oden<sup>8</sup> felt that it was absurd for gifted students to be in a heterogenous group.

<sup>5</sup>Dean P. Barton, Ed D, Dissertation Abstracts, Vol. XXV, No. 1, (Ann Arbor, Mich.: University Microfilms, July, 1964), (Order #64-9939), p. 1731.

<sup>6</sup>D. A. Abramson, "The Effectiveness of Grouping for Students of High Ability," Educational Research Bulletin, XXXVIII, (1959), pp. 169-82.

<sup>7</sup>California State Department of Education, "Educational Programs for Gifted Pupils," A Report to the California Legislature, (Sacramento: California State Department of Education, 1961).

<sup>8</sup>Louis M. Terman and Melita A. Oden, "Major Issues in the Education of Gifted Children," Journal of Teacher Education, Vol. 4-5, (1953-54), pp. 230-232.

## CHAPTER III

### THE CHARACTERISTICS AND MOVEMENT OF STUDENTS IN ENGLISH

In this study of ability grouping, it was found that Springfield High School has five different ability groups in English for the 10th and 11th grades. Another group is added in the 12th grade making a total of six different ability groups for the 12th grade.

The group numbers and names used at Springfield High School are:

(a) Remedial	(group I)
(b) Low	(group II)
(c) Average	(group III)
(d) Above average-to-high	(group IV)
(e) High	(group V)
(f) Accelerated College Placement	(group VI)

The students who enter Springfield High School for the 10th grade are required to take English. The 9th grade subject-matter junior high English teachers are basically responsible for the estimate of the student's abilities and his initial placement in English for the 10th grade.

The characteristics and movement of each group are described in this chapter. The names and group numbers will be the same as those used at Springfield High School. Group VI (Accelerated College Placement) will not be described as a group in its entirety, but as movement from one of the other groups.

The total population for evaluation in English is 317. Of this number, 176 are girls and 141 are boys. Table 1 gives a summation of total placement and movement in English by grade level and semester.

#### Remedial Group (Group I)

Upon entry into Springfield High School, fifteen boys and girls were placed in the remedial group (group I) at the start of the first semester of the 10th grade. The fifteen students were from a sampling of 317. Ten of those placed were boys from a number of 141, and five were girls from a number of 176. Movement from the remedial to the low group (group II) by all students was complete by the beginning of the first semester of the 11th grade. For both semesters in the 12th grade, two students had been placed in an average group (group III).

The median I.Q. for the thirteen students placed in the remedial group, who did not progress beyond the low group in their movement, was 104. The median for the boys was also 104 and for the girls it was 100. The range for boys and girls was 84 to 119. The median score for the 6th grade grade-equivalent scores for the thirteen was 5.8. The median score was 5.9 for boys and 4.8 for girls. The range for boys and girls was 3.9 to 8.4. The median of the percentile ranks on the Verbal Reasoning test at the 9th grade level for the thirteen who were placed in the remedial group, and who did not move beyond the low group was 19. The median for boys was a percentile rank of 45 and a

TABLE 1.--Summation of total placement and movement in English by grade level and semester.

Placement & Movement	10th		11th		12th		Notations
	1st Sem	2nd Sem	1st Sem	2nd Sem	1st Sem	2nd Sem	
<b>Remedial Group (Group I)</b>							
No. placed to gp. II	15	11					
to gp. III		4	15	15	10	9	
Not scheduled					2	2	
					3	4	
<b>Low Group (Group II)</b>							
No. placed to gp. I	57	52	45	45	29	30	1 student in ungrouped section, 12th 2nd Sem.
to gp. III		1					
Not scheduled		4	11	12	13	15	
					15	11	
<b>Average Group (Group III)</b>							
No. placed to gp. II	108	88	84	81	71	68	1 student repeating 12th, 2nd Sem.
to gp. IV		6	10	10	12	8	
Not scheduled		14	13	17	11	12	
					14	19	
<b>Above Average-to-High (Group IV)</b>							
No. placed to gp. III	100	85	67	66	56	56	
to gp. V		5	8	8	14	13	
to gp. VI		10	24	24	22	22	
Not scheduled			1	2	4	4	
					4	5	
<b>High Group (Group V)</b>							
No. placed to gp. IV	37	33	29	30	24	25	1 student to ungrouped section, 12th 2nd Sem.
to gp. VI		2	5	5	8	7	
to gp. III		2	2	2	2	1	
Not Scheduled			1		1	1	



percentile rank of 10 for the girls. The range of the percentile ranks was from 05 to 85. The median of the percentile ranks on the Verbal Reasoning test at the 11th grade level was a percentile rank of 19. The median percentile rank for the boys was 33 and for the girls 10.5. The range of the percentile ranks was 02 to 59.

Before movement into the low group, the boys received three "C's" and thirteen "D's." The girls received two "C's" and four "D's." After movement into the low group, the boys received six "C's," seventeen "D's," and three "E's." The girls after movement received eight "C's" and five "D's.:"

Two students, a boy and a girl, who were moved from the low group as their final movement into the average group, had measured I.Q. scores that were the lowest of the entire placement. One 6th grade grade-equivalent score was the lowest of the entire placement while the other was below the median. On the 9th and 11th grade Verbal Reasoning tests, they received percentile rankings that were within the percentile range rankings, except for one rank that was the lowest of the entire placement.

There were no criteria for movement from the remedial group to the low group, although movement was complete. The majority of grades received in the remedial group were "D's," and this characteristic remained true after movement into the low group. Movement by the two students, who were moved to the low group and then into the average group, was accompanied by grades approximately the same as those who

moved and remained in the low group. But they moved with scores and percentile ranks which would place them in the lower half of the original placement of the remedial group.

#### Low Group (Group II)

Twenty-eight boys and twenty-nine girls were scheduled into the low group (group II) for the first semester of the 10th grade. Thirty-seven of those placed stayed in the low group as long as they were enrolled in English courses. Sixteen were moved into an average group (group III) and four had movement different from those listed. Each of the different variations will be treated separately.

Twenty boys and seventeen girls were placed in the low group (group II) and remained there. The median I.Q. for the boys and girls was 98. The boys' median I.Q. was 100.5 and the girls' was 95. The range for the boys and girls was from a measured I.Q. of 89 to a measured I.Q. of 115. The median 6th grade grade-equivalent score for the boys was 5.95, and a median score of 5.5 was found for the girls. The total median for both was 5.8. The range of the grade-equivalent scores for boys and girls was a score of 4.0 to a score of 10.3. The median percentile rank on the 9th grade Verbal Reasoning test for the boys was 47.5. The girls had a median percentile rank of 20. The percentile rank median of both boys and girls on the 9th grade Verbal Reasoning was 40. The lowest percentile rank for both boys and girls was 10, and the highest was 90. The median percentile rank for boys and girls on the 11th grade Verbal

Reasoning was 37. The median percentile rank for the boys was 37. The median percentile rank for the girls was 25. The range of the percentile ranks was from 03 to 92 on the 11th grade Verbal Reasoning.

The number of letter grades received by the boys for five semesters of work was twenty-six "C's," fifty-eight "D's," and fifteen "E's." The girls received four "B's," thirty-eight "C's," thirty-seven "D's," and six "E's."

Sixteen students were moved from the low group into an average group and remained there. This movement occurred during the second semester of the 10th grade or during or for the 11th or 12th grade. Five of the students were boys and eleven were girls. The median I.Q. for boys and girls was 104.5. The median I.Q. for the boys was 109 and for the girls it was 103. The measured I.Q.'s ranged between 97 and 120. The median 6th grade grade-equivalent scores of boys and girls was 7.1. The boys' median score was 6.8, and a median score of 7.1 was found for the girls. The range of the scores was from 5.0 to 9.5. The median 9th grade Verbal Reasoning test percentile ranks for both girls and boys was 52.5. The median percentile rank was 70 for boys and 50 for girls. The low percentile rank for boys and girls was 05 and the high was 90. The median percentile rank for both boys and girls on the 11th grade Verbal Reasoning test was 43. The median percentile rank for the boys was 77, and for the girls it was 42. The range of the percentile rank for boys and girls was 09 to 99 on the 11th grade Verbal Reasoning test.

Before movement into the average group from the low group, the boys received one "B," eleven "C's," and one "D." The girls received one "A," six "B's," fifteen "C's" and four "D's." After movement into the average group, the boys received six "B's," fifteen "C's," and four "D's." The girls received one "B," fourteen "C's," and twelve "D's."

Four students moved under conditions which did not fit the other two described conditions. One girl placed in the low group stayed in that group until the second semester of the 12th grade. She was then scheduled into an ungrouped course. Three boys experienced the following conditions: (1) placed in the low group, moved to the remedial group, and then moved back into the low group, (2) placed in the low group, moved to the average group, and then moved back into the low group, (3) placed in the low group and repeated 10th grade English during the 11th and 12th grades.

When compared with the low group which did not move, it was found, except in three comparisons, that the scores and percentile ranks were slightly above or slightly below the medians. The I.Q. score for the boy who repeated courses, was the lowest of the placement in the low group. The 6th grade grade-equivalent score for the boy who moved to the remedial group and then back, was the lowest 6th grade grade-equivalent score in the placement. The girl placed into an ungrouped course had a percentile rank almost equal to the lowest ranking of the placement in the low group.

The grades of the students, except in one case, indicated that they were moved to the remedial group or to the average group because of low or average grades. The student who was repeating received five "E" grades, but remained in the low group.

The semester showing the largest amount of alteration from the original placement was the second semester of the 12th grade. Fifteen students, or 26 per cent of those placed in the low group, were out of their original placement. Of the 26 per cent movement for the semester, 73 per cent had been moved by the first semester of the 11th grade. Although the placement in group II was almost equal between boys and girls, ten of the fifteen students moving to group III were girls.

The median I.Q. score for the students who moved to the average group and remained there, increased from 98 to 104.5. The 6th grade grade-equivalent median score increased from 5.8 to 7.1. The median percentile rank of the 9th grade Verbal Reasoning test was elevated from the 40th to 52.5 and the median percentile rank on the 11th grade Verbal Reasoning test was raised from the 37th to the 43rd. Although there was an indication of increases by the median scores and median percentile ranks, there was much overlapping of individual scores and percentile ranks of students between the two.

Grades showed a trend in relationship to movement. The students who did not move received no "A's," four "B's,"

sixty-four "C's," ninety-five "D's," and twenty-one "E's." The students placed in the low group and then moved to the average ability group had total grades before and after movement of one "A," ten "B's," forty-nine "C's," eighteen "D's," and they received no failing grades. The girls as a group indicated that they were receiving slightly better grades than the boys.

#### Average Group (Group III)

One hundred and eight students were placed in the average group (group III) for the first semester of the 10th grade. Seventy-five of the placement stayed in the average placement for all of their English courses, fourteen were moved to the high, average-to-high group (group IV), eleven moved to the low group (group II), and eight moved differently from those listed. Each of the different variations will be treated separately.

Forty-five girls and thirty boys were placed in the average group (group III) and remained in that grouping. The total median I.Q. for boys and girls was 108. The median I.Q. for the girls was 110 and for boys it was 106. The range of measured I.Q.'s was from 91 to 128. The median 6th grade grade-equivalent for both boys and girls was 7.2. The median for the boys was 6.75 while the median for the girls was 7.3. The scores ranged from 4.2 to 10.3. The median percentile rank for both boys and girls on the 9th grade Verbal Reasoning was 55. Seventy was the median percentile rank for boys and 55 for girls. The range was

from a percentile rank of 03 to a percentile rank of 95. On the 11th grade Verbal Reasoning test, the median percentile rank for the boys was 65, and the median percentile for the girls was 47. The median percentile rank for boys and girls was 58. The 11th grade Verbal Reasoning test ranged from a percentile rank of 07 to 99.

The total number of grades received by the boys was thirty-four "B's," seventy-four "C's," forty-four "D's," and four "E's." The girls received twenty-eight "B's," 134 "C's," fifty-two "D's," and three "E's." None of the boys or girls received "A" grades.

Fourteen students, who were scheduled into the average group for the first semester of the 10th grade, were placed in the above average-to-high group (group IV) for the second semester of the 10th grade or during, or for, the 11th and 12th grade. The students consisted of one boy and thirteen girls. The median I.Q. for the girls was 114, and the measured I.Q. of the only boy was 107. The I.Q. range was from a measured I.Q. of 107 to a measured I.Q. of 123. The median for the 6th grade grade-equivalent score for the girls was 7.55. The boy had a grade equivalent score of 8.8. The range for the scores was from 6.6 to 9.5. The median percentile rank for the 9th grade Verbal Reasoning test was 70. The boy ranked at the 85th percentile, and the girls had a median percentile rank of 79. The percentile rank range on the 9th grade Verbal Reasoning test was from 25 to 97. On the 11th grade Verbal Reasoning test, the

percentile rank median for the boy and the girls was 79. The boy ranked at the 35th percentile level, and the median for the girls was at the 34th percentile level. The range of the percentile ranks was from the 35th to the 99th.

Before movement into the above average-to-high group the boy received a "B" grade; the girls received three "A's," eleven "B's," four "C's" and one "D." After movement the boy received three "C's" and one "D." The girls received twenty-three "B's," eighteen "C's," and three "D's."

Eleven students were moved from the average group (group III) to a low group (group II) after their initial placement in the average group. Eight were boys and three were girls. The median I.Q. for both girls and boys was 103. The median I.Q. for the girls was 95, and the median for the boys was 107.5. The range of the I.Q.'s ran from 90 to 118. The median for the 6th grade grade-equivalent scores for both boys and girls was 5.7. The median for the girls was 5.4, and the median for the boys was 6.1. The range of the 6th grade grade-equivalent scores was from 5.0 to 9.7. The median percentile rank on the 9th grade Verbal Reasoning test for boys and girls was at the 35th percentile level. The boys' median was at the 55th percentile level and the girls' median was at the 14th percentile level. The range of the 9th grade Verbal Reasoning percentile ranks was from 05 to 80. The median percentile level on the 11th grade Verbal Reasoning for both



boys and girls was 3.5. The median percentile rank for the girls was 14, and for the boys the median percentile rank was 59.

Before movement from average group to the low group, the boys received eleven "D's," and seven "E's." The girls received four "D's." After movement to the low group, the boys received seven "C's," thirteen "D's," two "E's." The girls received seven "C's" and three "D's" after movement.

Eight students moved from their original placement in the average group under conditions other than those just described. Two students repeated courses and moved to group II; two moved into group IV, to group II, to group IV, and then back to group III. Three moved to group II and back. The students will be compared with the students who were placed in the average group and did not move.

The students who were involved in movement with group II had scores and percentile ranks within the ranges of the test selectors. They had some scores and percentile ranks which were above and below medians for the group with which they are compared. The students who were involved in movement with group IV, were all above the median scores and percentile ranks, except for one I.Q. score slightly below the median and two 11th grade Verbal Reasoning test percentile ranks slightly below the median. Movement was usually initiated by grades. In the one case where it was not, the student received an "E" in the average group, moved to group IV where a "C" grade was again received, and then back to group III where he received another "C."

The largest amount of alteration from the original placement in the average group was recorded for the second semester of the 11th grade. Twenty-five per cent of the students experienced deviations for this semester. The actual number in the deviation was twenty-seven. Six boys and four girls had been moved to group II for this semester while four boys and thirteen girls had been moved to group IV. Seventy-four per cent of the movement was initiated by the first semester of the 11th grade.

When comparing the students placed in the average group with its two main variations, it is found that the medians were lowered or increased with movement to a lower or higher ability group. The median I.Q. score for the placement which remained in the average group was 108. The median I.Q. score for the movement into the low group was 103, and the median score for the movement into the above average-to-high group was 113.5. The median 6th grade grade-equivalent score of 5.7 for the movement in the low group decreased from the median score of 7.3 for the average placement which did not move. The median score for the students who moved to the above average-to-high group increased to 7.7. The 9th grade Verbal Reasoning percentile rank median for the movement into the low group was at the 35th percentile while the remaining placement in the average group had a median percentile rank of 55. The group moved into the above average-to-high group indicated a percentile rank of 70 on the 9th grade Verbal Reasoning test. The raising and lowering of the

median percentile ranks was also indicative of the 11th grade Verbal Reasoning percentile ranks. The students who remained in the average received a median percentile rank of 58. The movement to the low group had a percentile rank of 23.5, while the percentile rank of the movement into the above average-to-high group was 79. There was large overlapping of scores between each variation when individual scores were compared with distributions of scores and percentile ranks.

Grades were found to be a basis for movement. Low grades usually indicated movement to group II, and higher grades indicated movement to group IV. The students who remained in their placement in group III received a majority of "C" grades. For five semesters of work they received no "A's," sixty-two "B's," 208 "C's," ninety-six "D's," and seven "E's." The students who moved into group IV received a majority of "B's." For five semesters of work, they received three "A's," thirty-five "B's," twenty-five "C's," five "D's" and no failing grades. The "A" grades were received before movement into group IV. The students who moved into group II received a majority of "D" grades. For the five semesters of work they received no "A" or "B" grades, fourteen "C's," thirty-one "D's," and nine "E's." When comparing grades received by boys and girls, it is found that the girls received higher grades as a group than did the boys.

#### Above Average-to-High Group (Group IV)

One hundred students were placed into group IV for the first semester of the 10th grade. Forty-four were boys and

fifty-six were girls. Fifty-six students placed in group IV remained in that placement and twenty-two were moved into group V. Fourteen were moved to group III. Eight had variations different than those described.

Of the fifty-six students that were placed in group IV and remained in that group for all English courses, twenty-four were boys and thirty-two were girls. The median I.Q. of both boys and girls was 117. The boys' median I.Q. was 120.5 and the girls' median I.Q. was 116. The I.Q.'s ranged from 91 to 134. On the 6th grade grade-equivalent scores, the total median was 8.5. The boys had a 6th grade grade-equivalent of 8.4 and the girls a median of 8.65. The range of the 6th grade grade-equivalent scores was from 6.2 to 10.8. On the 9th grade Verbal Reasoning test, the total median percentile rank was 80. The median percentile rank was 90 for boys and 75 for girls. The percentile rank range was from 35 to 99. The total median for both boys and girls on the 11th grade Verbal Reasoning test was a percentile rank of 83. The median percentile rank for the boys was 85, and for the girls it was 81. The range of the percentile rank was from 36 to 99.

The total number of letter grades received by the boys was one "A," seventy-two "B's," and forty "C's." The girls received one "A," eighty-seven "B's," and sixty-three "C's."

Twenty-two students placed in group IV moved into group V at some time and remained in group V. Ten of them were boys and twelve were girls. Their median I.Q. was 121.

The median I.Q. for the boys was 125, and the median for the girls was 118. The range of I.Q.'s was from 104 to 134. The median 6th grade grade-equivalent score for boys and girls was 9.5. The median 6th grade grade-equivalent score for the boys was 9.5, and 9.7 was the median score for the girls. On the 9th grade Verbal Reasoning test, the total number received a median percentile rank of 90. The median percentile rank for the boys was 93.5 and for the girls it was 90. The percentile rank ranged from 70 to 99. The median for both boys and girls on the 11th grade Verbal Reasoning test was a percentile rank of 90. The median percentile rank for the boys was 89.5 and for the girls it was 90. The range of the percentile rank was from 29 to 99.

Before movement in group V, the boys received six "A's" and eleven "B's." After movement into group V, they received nine "A's," sixteen "B's," six "C's" and one "D." The girls received seven "A's" and nineteen "B's" before movement into group V. After movement into group V, they received eight "A's," twenty-two "B's," two "C's" and one "D."

Fourteen students placed in group IV were moved to group III. Five were boys and nine were girls. The median I.Q. for the total was 109.5. The girls' median I.Q. was 107, the boys' was 111. The range of I.Q. scores was from 102 to 132. The median 6th grade grade-equivalent score was 8.0 for the total boys and girls. The median for the boys was 8.7 and 7.7 for the girls. The 6th grade grade-

equivalent scores ranged from 5.9 to 9.4. The median percentile rank for both boys and girls on the 9th grade Verbal Reasoning test was 70. The percentile rank for the boys was 80, and 55 was the median for the girls. The percentile rank range on the 9th grade Verbal Reasoning test was from 40 to 95. On the 11th grade Verbal Reasoning test, the total number received a median percentile rank of 66.5. The percentile medians for boys and girls were 87 and 65, respectively. The percentile ranks ranged from 20 to 95.

Before movement into group III from group IV, the boys received two "B's," six "C's," and one "D." After movement into group III, they received four "B's," eight "C's," and one "D." Before movement into group III the girls received fifteen "C's," and nine "D's." After movement into group III they received six "B's," ten "C's," and five "D's."

Four students were moved from group IV to group V and then back into group IV. When comparing their scores and percentile ranks with those received by the students who were placed in group IV and remained, it was found that all scores and percentile ranks were equal to or above the medians, except for one percentile rank on the 11th grade Verbal Reasoning test. The scores and percentile ranks were all within the ranges typical for the students in group IV. Movement into group V was accompanied by "B" grades. Movement back into group IV was accompanied by two "C's" and two "B's."

Four students, who had been placed in group IV, were moved to the accelerated college placement (group VI) for the

12th grade. Two were placed directly from group IV, and two had been placed in group V before movement in group VI. When compared to the students remaining in the original placement in group IV, it was found that they had scores and percentile ranks above the medians, except for two 11th grade Verbal Reasoning test percentile ranks which were below the median of that particular rank. The students were moved into group VI with "B" grades in each case.

Of the total placement of 100 students, forty per cent were in movement for the first semester of the 12th grade. Of the forty total number who were in movement, five boys and ten girls were in group III, ten boys and twelve girls were in group V, and two boys and two girls were in group VI. Of the movement thirty-eight per cent had taken place by the second semester of the 10th grade, and by the first semester of the 11th grade eighty per cent of the movement had been accomplished.

When comparing, it is found that the median I.Q. score of 109.5 is lower than the median score of 117 for the students who remained in group IV, while the median score of 121 for the group which moved to group V is higher. The median 6th grade grade-equivalent score of 8.0 is lower than the median of 8.5 for the students who remained in group IV, and the median score of 9.5 for the students who moved to group V was higher. A median percentile rank of 70 was compiled by the students who moved to the average group on the 9th grade Verbal Reasoning test. It was lower than the percentile rank of 80 for the students

remaining in the above-average-to-high group, but the students moving to group V received a higher percentile rank of 90. On the 11th grade Verbal Reasoning test, the students remaining in group IV had a median percentile rank of 83. The students who moved to group III had a lower median percentile rank of 66.5, while the students who moved to group V had a higher percentile rank of 90. The median scores and ranks indicate that students who move to a lower or higher ability group tend to have lower or higher scores and percentile ranks. Individual scores and percentile ranks, when compared with the distribution in the placement in group IV, indicates overlapping and similar scores and ranks.

Letter grades tended to indicate movement and to characterize groups. The students who remained in the placement in group IV received two "A's," 159 "B's," 103 "C's," one "D," and one "E" for five semesters of work. The students who were moved to group III received no "A's," twelve "B's," thirty-nine "C's," sixteen "D's," and no "E's" for five semesters of work. For five semesters the students moved to group V received thirty "A's," sixty-eight "B's," eight "C's," two "D's," and no "E's." As a group, the boys tended to receive slightly better grades than did the girls.

#### High Group (Group V)

Thirty-seven students were placed in the high group (group V) for the first semester of the 10th grade. Of the



placement, twenty-four were girls and thirteen were boys. Twenty-four students placed in group V remained there for their English courses, eight were moved to group IV, and five students had conditions other than those described. Each of the different variations will be treated separately.

Of the twenty-four students placed in group V and remaining in that group, seven were boys and seventeen were girls. The median I.Q. for both girls and boys was 123. The median I.Q. for the boys was 124, and for the girls the median was 121. The range of the I.Q. scores was from 106 to 141. The median for the total number on the 6th grade grade-equivalent scores was 9.6. The median for the girls was 9.7 and the median for the boys was 9.3. On the 9th grade Verbal Reasoning test, the median percentile rank for the total number was 90. The median percentile rank for boys was 97, and for girls was 90. The percentile rank range was from 55 to 99. On the 11th grade Verbal Reasoning test, the median percentile rank for the total number was 89. The median percentile rank for the boys was 92, and for the girls the median percentile rank was 89. The percentile rank range was from 47 to 99.

The boys received seven "A's," eighteen "B's," nine "C's" and one "D" for their work in group V. The girls received thirty "A's," forty seven "B's," sixteen "C's" and two "D's."

Eight students who were placed in group V moved into group IV. Of that total, four were boys and four were girls.

The median I.Q. for the total number was 114.5. The median for the girls was 114 and for the boys the median was 121.5. The I.Q. range was from 100 to 135. The median 6th year grade-equivalent score was 8.85. The median for the boys was 9.35 and for the girls it was 8.65. The range of the 6th grade grade-equivalent scores was from 6.5 to 10.3. The median 9th grade percentile rank for both boys and girls was 90. The median percentile rank for the boys was 95 and for the girls it was 73. The percentile rank range was from 60 to 97. The 11th grade percentile rank median for both boys and girls was 95. The percentile median for the girls was 73.5 and for the boys it was 96. The percentile rank range was from 71 to 99.

Before movement into group IV from group V, the boys received one "A," five "B's," five "C's," and two "D's." After movement into group IV, they received three "B's," one "C," and three "D's." Before movement into group IV, the girls received eight "B's," and one "C." After movement into group IV they received five "B's" and six "C's."

Two of the students placed in group V were moved to group VI for the first semester of the 12th grade. Their scores and percentile ranks were above the medians for the students in group V who did not move, except for their I.Q. scores. These scores were both slightly below the median. Both students moved on "A" grades.

Two students were moved from group V to group III. Both had scores and percentile ranks below the medians of

those students remaining in group V. One percentile rank was the lowest received of all placement in group V. Both students moved to group III with "D" grades.

A boy was moved from group V to group IV, and then back to group V. His scores and percentile ranks were either slightly above or slightly below the medians for the students in group V. All movement by the boy was accompanied by "B" grades.

The semester that indicated the most alteration of movement was the first semester of the 12th grade. Thirty-three per cent of the total placement had deviations for this semester. Four boys and four girls had been moved to group IV, two girls had been moved to group VI, and one boy and one girl had been moved to group III. By the first semester of the 11th grade, fifty-eight per cent of movement had been initiated.

The median I.Q. score of 114.5 for the group moved from group V to group IV was lower than the median I.Q. score of 123 for the students who remained in group V. The 6th grade grade-equivalent score of 8.85 for the group who moved, was also lower than the median score of 9.6 for the students who remained in group V. The median percentile rank of 90 on the 9th grade Verbal Reasoning test was identical for both the students that remained in group V and for the students who moved to group IV. The students who moved to group IV had a higher median percentile rank, which was 95, than the median percentile rank of 39 recorded for the students who remained in group V.

Grades for the students placed in group V did not tend to be as strong a factor in movement as indicated in group II, III, and IV. The letter grades were still indicative of the groups. The students who moved to group IV received one "A," twenty-one "B's," thirteen "C's," and five "D's" for five semesters of work. The "A" grade was received before movement. The students who remained in group V received thirty-seven "A's," sixty-five "B's," sixteen "C's," and two "D's" for five semesters of work. No "E" grades were received by any student that had been placed in group V. The girls tended to receive slightly better grades than the boys.

Tables 2, 3, and 4 show a summation of median I.Q. scores, median 6th grade grade-equivalent scores, 9th grade Verbal Reasoning test percentile ranks, 11th grade Verbal Reasoning test percentile ranks, and ranges for each ability group and its major variation in English.

TABLE 2.--Summation by placement and major variations of each placement of the median I. Q. Scores and ranges in the subject-matter ability groups in English.

Placement & Major Variation of each Placement	No. Boys	No. Girls	Total Boys & Girls	Med. I.Q. Boys	Med. I.Q. Girls	Total Med. I.Q.	Low I.Q.	High I.Q.
Gp. I	9	4	13	104	100	104	84	119
Gp. II (Remained)	20	17	37	100.5	95	98	89	115
Gp. II (to gp. III)	5	11	16	109	103	104.5	97	120
Gp. III (Remained)	30	45	75	106	110	108	90	128
Gp. III (to gp. II)	8	3	11	107.5	95	103	90	118
Gp. III (to gp. IV)	1	13	14	107	114	113.5	109	123
Gp. IV (Remained)	24	32	56	120.5	116	117	91	134
Gp. IV (to gp. III)	5	9	14	111	107	109.5	102	132
Gp. IV (to gp. V)	10	12	22	125	118	121	104	134
Gp. V (Remained)	7	17	24	124	121	123	106	141
Gp. V (to gp. IV)	4	4	8	121.5	114	114.5	100	135

TABLE 3.--Summation by placement and major variations of each placement of the median 6th grade grade-equivalent scores, median 9th grade Verbal Reasoning test percentile ranks, and median 11th grade Verbal Reasoning test percentile ranks in subject-matter ability groups in English

Placement & Major Variation of each Placement	Number of boys	Number of girls	Number of boys and girls	Med. 6th grade GE (boys)	Med. 6th grade GE (girls)	Total Median 6th grade GE	Med. 9th grade V. R. (boys)	Med. 9th grade V. R. (girls)	Total Median 9th Grade V. R.	Med. 11th grade V. R. (boys)	Med. 11th grade V. R. (girls)	Total 11th grade Med. boys & girls
Gp. I	9	4	13	5.9	5.2	5.8	45	10	25	33	10.5	19
Gp. II (Remained)	20	17	37	5.95	5.5	5.8	47.5	20	40	37	25	37
Gp. II (to Gp. III)	5	11	16	6.8	7.1	7.1	70	50	52.5	77	42	43
Gp. III (Remained)	30	45	75	6.75	7.3	7.2	70	55	55	65	47	53
Gp. III (to Gp. II)	8	3	11	6.1	5.4	5.7	55	15	35	59	14	23.5
Gp. III (to Gp. IV)	1	13	14	8.8	7.5	7.7	85	70	70	35	84	73
Gp. IV (Remained)	24	32	56	8.4	8.6	8.5	90	75	80	85	81	83
Gp. IV (to Gp. III)	5	9	14	8.7	7.7	8.0	80	55	70	87	65	66.5
Gp. IV (to Gp. V)	10	12	22	9.5	9.7	9.7	93.5	90	90	89.5	90	90
Gp. V (Remained)	7	17	24	9.3	9.7	9.6	97	90	90	92	89	89
Gp. V (to Gp. IV)	4	4	8	9.3	8.6	8.8	95	73	90	96	73.5	95

TABLE 4.--Summation by placement and major variation of each placement of the ranges for the 6th grade grade-equivalent scores, 9th grade Verbal Reasoning test percentile ranks, and 11th grade Verbal Reasoning test percentile ranks in subject-matter ability groups in English.

Placement & Major Variation of each Placement	6th Grade Grade Equivalent		9th Gr. Verbal Reasoning Percentile Ranks		11th Grade Verbal Reasoning %tile Ranks	
	Low	High	Low	High	Low	High
Gp. I	3.9	8.4	05	85	02	59
Gp. II (Remained)	4.2	10.3	03	90	03	92
Gp. II (to Gp. III)	5.0	9.5	05	90	09	99
Gp. III (Remained)	4.2	10.3	03	95	07	99
Gp. III (to Gp. II)	5.0	9.7	05	85	09	91
Gp. III (to Gp. IV)	6.6	9.5	25	97	35	99
Gp. IV (Remained)	6.2	10.8	35	99	36	99
Gp. IV (to Gp. III)	5.9	9.4	40	95	20	95
Gp. IV (to Gp. V)	7.3	11.6	70	99	29	99
Gp. V (Remained)	7.5	12.2	70	99	47	99
Gp. V (to Gp. IV)	6.5	10.3	60	97	71	99

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## CHAPTER IV

### THE CHARACTERISTICS AND MOVEMENT OF STUDENTS IN SOCIAL SCIENCE

For this part of the study, it was found that Springfield High School has three ability groups in Social Science for the 10th and 12th grades. Another group is added in the 11th grade. The group numbers and names used at Springfield High School are:

- |                                      |             |
|--------------------------------------|-------------|
| (a) Low                              | (group I)   |
| (b) Average                          | (group II)  |
| (c) High                             | (group III) |
| (d) Accelerated College<br>Placement | (group IV)  |

Students are not required to take Social Science courses in the 10th grade, but they may elect to do so. The abilities of students who decide to include Social Science in their 10th grade curriculum, are estimated by the related 9th grade subject-matter teacher in the junior high school. If a student elects to take Social Science after his entry into high school, he is placed primarily by the high school counselors.

The characteristics and movement of each group are described in this chapter. The names of the groups will be the same as those used at Springfield High School. Group IV (Accelerated College Placement) will not be described as a group in its entirety, but as a movement from one of the other groups.



The population for evaluation in Social Science is 294. Of that number, 126 are boys and 168 are girls.

The students for the Social Science population were selected on the basis of having been grouped in World History, American History and American Government courses indicating a letter grade and code numbers which showed grade, semester, and grouping.

### Rejects

The rejected population in Social Science is twenty-three less than the total number used for English. Students without course code numbers or students in ungrouped sections only were rejected. The rejects consisted of eleven students who had been placed in group II, four in group I, five that had been in group II and moved to I, one who had been placed in group I and moved to group II, and two without any grouped courses. Table 5 shows a summation of total placement and movement in Social Science by grade level and semester.

### Low Group (Group I)

Upon entry into high school, fifty-nine students were placed in the low group (group I). Of the total number placed in the low group, forty-five remained in this group for the remainder of their Social Science courses, seven were placed in group II, and seven varied from those conditions just discussed. Each variation will be described individually.

TABLE 5.--Summation of total placement and movement in Social Science by grade level and semester.

Placement & Movement	10th		11th		12th		Notations
	1st Sem	2nd Sem	1st Sem	2nd Sem	1st Sem	2nd Sem	
<b>Low Group (Group I)</b>							
No. placed to gp. II	28	30	51	50	40	3	1 student in ungrouped course, 2nd sem, 12th gr.
Not scheduled	31	27	7	8	6	55	
<b>Average Group (Group II)</b>							
No. placed to gp. I	66	70	124	122	83	4	1 student in ungrouped course, 2nd sem, 12th gr.
to gp. III		5	5	8	13	2	
to gp. IV		5	7	6	17		
Not scheduled	75	61	2	2	28	134	
<b>High Group (Group III)</b>							
No. placed to gp. II	33	33	74	74	65	4	
to gp. IV		1	3	3	7	2	
Not scheduled	61	60	9	9	22	88	

Those placed in the low group, who did not move, consisted of seventeen boys and twenty-eight girls. The median I.Q. was 102. The median for the boys was 102 and the median for the girls was 98. A median 6th grade grade-equivalent score of 6.1 was found for the total number. The boys' median 6th grade grade-equivalent score was 6.2, and the girls' median score was 6.05. The range of scores was from 3.6 to 9.0. On the 9th grade Verbal Reasoning test, both boys and girls received a median percentile rank of 25. The boys' median percentile rank was 50, and the girls' median was 15. The percentile rank range was from 03 to 90. The median percentile rank for both boys and girls on the 11th grade Verbal Reasoning test was 23. The boys scored a median percentile rank of 29 and the girls' median score was 16.

The number of letter grades received by the boys in the low group was two "B's," twenty-one "C's," thirty-four "D's," and four "E's." The girls received eight "B's," fifty-six "C's," thirty-eight "D's," and five "E's."

Movement from the low group to the average group was accomplished by seven students--four girls and three boys. The median I.Q. was 98. The boys had a median I.Q. of 98, and the median I.Q. for the girls was 99.5. The I.Q. range was from 90 to 110. The median 6th grade grade-equivalent score for both boys and girls was 6.7. The median for the boys was 6.7. The girls' median score was 6.4. The 6th grade grade-equivalent range was from a score of 4.2 to a

score of 8.5. On the 9th grade Verbal Reasoning test, the total numbers' median percentile rank was 15. The median percentile rank for the boys was 20, and for the girls it was 15. The percentile rank range was from 03 to 75. Both boys and girls had a median percentile rank of 37 on the 11th grade Verbal Reasoning test. The median percentile rank for the boys was 42, and the girls received a median percentile rank of 28.5. The median percentile rank range on the 11th grade Verbal Reasoning test was from 14 to 53.

Before movement into the average group, the boys received three "C's" and five "D's." After movement they received three "C's" and one "D." The girls received two "B's," three "C's" and one "D" before movement into the average group. After movement they received three "B's," six "C's," and three "D's."

In the total placement, three boys remained in group I, but repeated courses, one girl was placed into an ungrouped course, and three boys were moved to group II, but were again moved back to group I. The scores and percentile ranks of the students stated above are described in relationship to the students who remained in the low group.

The scores and percentile ranks were all within the range of the scores and percentile ranks for the remaining students in the low group, except for one I.Q. score and one 6th grade grade-equivalent score. These scores were the lowest recorded for the original placement in the low

group. The scores and percentile ranks varied within the ranges with some of the scores and percentile ranks approaching the low and high scores and low and high percentile ranks.

Grades were no indication for movement. Movement was initiated with "D" grades. The students who repeated courses did so because of failing grades.

The semester showing the greatest alteration of placement was the second semester of the 11th grade. Eight students, four boys and four girls, were in group II. Fourteen per cent were involved in movement for the semester. Eighty-eight per cent of movement was accomplished by the first semester of the 11th grade.

The scores and percentile rank medians had no set patterns. The median I.Q. score of 98 for the students who moved to group II was lower than the median score of 102 for the students who remained in group I. The median 6th grade grade-equivalent score of 6.1 for the students who remained in group I was lower than the median score of 6.7 for those who moved to group II. The 9th grade Verbal Reasoning test median percentile rank of 25 for the students who did not move was higher than the median percentile rank of 15 recorded for the students who moved to group II. The students who moved had an 11th grade Verbal Reasoning test percentile rank median of 37 and the students who remained in group I had a median percentile rank of 23.

Grades did not seem to be a strong indicator of movement. Both major variations received a majority of "C" grades. The students who remained in group I received no "A's," ten "B's," seventy-seven "C's," seventy-two "D's," and nine "E's" for the five semesters of work. The students who were moved to group II received no "A's," five "B's," fifteen "C's," ten "D's," and no "E's" for five semesters of work. The girls tended to receive better grades than the boys.

#### Average Group (Group II)

The total number of students placed in the average group of Social Science was 141. Of the total number, 111 remained in the average group for other Social Science courses, fifteen were moved into the low group, nine were moved into the high group, and six experienced movement which varies from those just discussed. Each variation is to be described individually.

The average group (group II), after students had moved, was populated by seventy-one girls and forty boys. The median I.Q. score for the boys and girls was 111. The I.Q. range was from 87 to 132. A median 6th grade grade-equivalent score of 7.6 was found for the total number. The boys' median score was 7.95, and the girls' median score was 7.5. The 6th grade grade-equivalent range of scores was from 4.9 to 10.5. The median percentile rank for both boys and girls on the 9th grade Verbal Reasoning test was 6.5. The boys had a median percentile of 70, and the girls had a median

percentile rank of 60. The range of the percentile rank was from 10 to 97. On the 11th grade Verbal Reasoning test, both boys and girls received a percentile ranking of 65. The median percentile rank for the boys was 65, and the girls also received a median rank at the 65th percentile.

The boys received thirty-six "B's," seventy "C's," and twenty-one "D's" for five semesters of work. The girls received six "A's," sixty-nine "B's," 121 "C's," and sixty three "D's" for five semesters of work.

The students who moved from the average group to the low group, consisted of fourteen boys and one girl. The boys' median I.Q. score was 107.5. The girl's measured I.Q. was 99. The median I.Q. score for the girl and the boys was 107. The range of scores was from 90 to 110. The girl and the boys received a 6th grade grade-equivalent score of 6.2. The median score for the boys was 6.1, and the girl had a 6th grade grade-equivalent score of 6.7. The 6th grade grade-equivalent range was from 4.9 to 7.8. These fifteen students received a median percentile rank of 60 on the 9th grade Verbal Reasoning test. The median percentile rank for the boys was 60, and the girl had a percentile rank of 50. The range of percentile ranks was from 05 to 90. The median percentile rank for the girl and the boys was 47. The median percentile rank for the boys was 47 and the girl had a percentile rank of 43. The ranks ranged from the 14th to the 71st percentile.

Before movement into the group I, the boys received two "B's," eighteen "C's," and twenty-one "D's." After

movement into group I, the boys received six "B's," ten "C's," eleven "D's" and one "E." The girl received one "C" and two "D's" before movement into group I. After movement, she received two "D's."

Of the total placement, nine students were moved into group III. Three were boys and six were girls. The median I.Q. of the nine students was 116. The boys' median score was 121; the girls' median score was 115.5. The scores ranged from 106 to 134. Both boys and girls had a median 6th grade grade-equivalent score of 9.5. The median score for the boys was 8.4, and 9.7 was the median score for the girls. The 6th grade grade-equivalent scores ranged from 7.3 to 10.8. The median percentile rank for both boys and girls on the 9th grade Verbal Reasoning test was 75. The boys had a median percentile rank of 75, and the girls' median rank was 77.5. The percentile ranks ranged from 10 to 95.

The boys and girls received a median percentile rank of 69.5 on the 11th grade Verbal Reasoning test. The boys' median percentile ranking was 75 and the median percentile rank for the girls was 69.5. The range of the percentile ranks was from the 10th to the 95th percentile.

Before movement into group III the boys received three "A's" and three "B's." After movement into group III, the boys received one "A," seven "B's," and one "C." Before movement into group III, the girls received five "A's," and five "B's." After movement the girls received one "A," two "B's," and three "C's."



Six students moved differently than those just described. Two boys were elevated to the accelerated College Placement (group IV), one boy was moved to the high group (group III) and was then moved back to the average group (group II), one boy was moved from his placement in group II to the low group (group I) and then back to group II, one boy was moved into an ungrouped course, and one girl moved to group I, back to group II, and then back to group I. The students will be compared with the students who were placed and remained in group II.

The students who moved into group IV had scores and percentile ranks, except in one result, that were all above the median scores and percentile ranks of the students remaining in group II. All scores and percentile ranks were within the ranges of the respective test. The students were moved with an "A" and a "B" grade.

The other four students had scores and percentile ranks that were within the range of scores and percentile ranks set by the students who remained in group II. They are characterized by scores and percentile ranks all within the range set by the students who remained in group II. Certain scores and percentile ranks of all students but one ranged both above and below the medians. One student was slightly below the median in each characteristic. Movement was indicated usually by lower or high grades. In one case, movement was made with no change in grades. In another case, the student was returned from a higher ability group after an "A" grade.

The first semester of the 12th grade had more alteration of movement than any other semester. Thirty students were out of their original placement; this was a twenty-one per cent deviation. Of the thirty students, six girls and seven boys had been moved into group II, eleven boys and six girls had been moved into group I, and two boys had been moved into group IV.

The test scores and percentile rank medians increased or decreased for the students who moved to a lower or higher group. The median I.Q. score for the students who moved to the low group was 107. The median score for the students who remained in the average group was 111, and the students who moved into the high group had a median I.Q. score of 116. The median 6th grade grade-equivalent scores were 6.2 for the students moved to the low group, 7.6 for the students who remained in their placement and 9.5 for the students who moved to the high group. The 9th grade Verbal Reasoning test median percentile rank was 60 for the students who moved to the low group, 65 for the students who remained in the average group, and 75 for the students who moved to the high group. On the 11th grade Verbal Reasoning test, the students who moved to the low group had a median percentile rank of 47, the students who remained in the average group had a median percentile rank of 65, and the students who moved to the high group had a percentile rank of 69.5.

The majority of grades received by the students who remained in the average group were "C's." For five semesters of work they received six "A's," 105 "B's," 191 "C's," eighty-four "D's," and two "E's." The students who were moved into the low group received a majority of "D" grades. For five semesters of work they received no "A's," eight "B's," twenty-nine "C's," thirty-six "D's," and one "E." The students who were moved to the high group received a majority of "B" grades. For five semesters of work they received no "D" or "E" grades. Grades seemed to indicate movement. Students with good grades moved to a higher ability group, while students with low grades moved to a lower ability group. The girls received slightly better grades than the boys.

#### High Group (Group III)

The high group (group III) consisted of fifty-six girls and thirty-eight boys for a total of ninety-four students. Of that number, seventy-seven remained in the original placement, nine were moved to the accelerated college placement group for the 11th grade, and eight were moved to group II. Each variation will be described individually.

Those placed in the high group and who did not experience movement, consisted of forty-eight girls and twenty-nine boys. The median I.Q. for the boys and girls was 121. The median score of the boys was 122, and the median for the

girls was 120.5. The 6th grade grade-equivalent score was 9.4 for the boys and girls. The median score for the boys was 9.35 and for the girls 9.4. The 9th grade Verbal Reasoning test median percentile rank was 90 for boys, girls, and total boys and girls. The range of the 9th grade percentile ranks ranged from the 55th to the 99th percentile. The median percentile rank for the boys and girls on the 11th grade Verbal Reasoning test was 89. The median for the girls was also 89. The median percentile rank for the boys was 87. The range of percentile ranks was from the 29th to the 99th percentile.

The boys received thirty-two "A's," forty-one "B's" and eight "C's" for five semesters of work in group III. The girls received forty-five "A's," sixty-seven "B's," twenty-five "C's," one "D," and one "E" for five semesters of work in the high group.

Of the placement in group III, eight were moved to group II. Five were boys and three were girls. The median I.Q. score for the boys and girls was 109. The median score for the girls was 103, and for the boys, it was 118. The I.Q. scores range from 100 to 125. The 6th grade grade-equivalent score median was 8.5 for the boys and girls. The median 6th grade grade-equivalent score for the boys was 8.7 and for the girls it was 7.5. The median percentile rank on the 9th grade Verbal Reasoning test was 84. The median percentile rank for the girls was 75 and for the boys 85. The range of the percentile ranks was from 50 to 97.

On the 11th grade Verbal Reasoning test the boys and girls received a median percentile rank of 79. The median percentile rank for the boys was 75, and for the girls it was 83. The range of the percentile ranks was from 57 to 92.

Before movement into group II the boys received three "B's" and four "C's." After movement into group II, the boys received three "B's," five "C's," and one "D."

Before movement into group II the girls received one "A," three "B's," and four "C's." After movement into group II, the girls received two "C's" and two "D's."

Elevation into group IV from group III was accomplished by nine students. Of the nine, five were girls and four were boys. Their median I.Q. score was 125. The median I.Q. score range was from 108 to 131. The 6th grade grade-equivalent median score for the boys and girls was 10.0. The median for the boys was 8.65 and for the girls it was 10.3. The range of scores for the 6th grade grade-equivalent scores was from 8.6 to 10.5. The 9th grade Verbal Reasoning percentile rank median was 95 for the boys and girls, boys, and girls. The percentile rank range was from 75 to 99. The median percentile rank for the boys and girls on the 11th grade Verbal Reasoning test was 95. The median percentile rank for the boys was 95, and for the girls it was 97. The percentile rank range was from the 42nd to the 99th percentile.

Before movement into group IV, the boys received four "A's," three "B's," and three "C's." After movement

into group IV the boys received three "A's," four "B's," and two "C's." Before movement into group VI the girls received two "A's," three "B's," and five "C's." After movement into group IV, the girls received two "A's," four "B's," and four "C's."

The largest amount of deviation in movement occurred during the first semester of the 11th grade. Twelve students were involved in movement of thirteen per cent of the total placement.

When compared with the median scores and percentile ranks of the students placed in group III who remained, the medians for the students who moved to group II decreased, and the median for the students moved into group IV increased. The median I.Q. score for the students who remained in group III was 121. The median for the students who moved to group II was 109, and the median I.Q. score for the students moved into group IV was 125. The median 6th grade grade-equivalent score for the students who remained in group III was 9.4, the median for the students placed in group II was 8.5, and for the students moved to group IV it was 10.3. The 9th grade Verbal Reasoning test percentile rank for the students who remained in group III was at the 90th percentile while the median rank for the students who were moved to group II was at the 84th percentile. The median rank for the students who moved to group IV was at the 95th percentile. On the 11th grade Verbal Reasoning test, the students who remained in group II recorded a

median rank at the 89th percentile, while the students placed in group II received a median rank at the 79th percentile. The students moved to group IV had a median rank at the 95th percentile.

Grades seemed to indicate movement from the original placement. The type of grades also indicated the level of ability grouping. The students who remained in group II after placement received, for five semesters of work, seventy-seven "A's," 108 "B's," thirty-three "C's," four "D's," and one "E." The students who were moved to group II received one "A," fourteen "B's," fifteen "C's," and three "D's" for five semesters of work. The students who were moved to group IV received eleven "A's," fourteen "B's," and fourteen "C's" for five semesters of work.

Tables 6, 7, and 8 show a summation of median I.Q. scores, median 6th grade grade-equivalent scores, 9th grade Verbal Reasoning test percentile ranks, 11th grade Verbal Reasoning test percentile ranks, and ranges for each ability group and its major variation in Social Science.

TABLE 6.--Summation by placement and major variations of each placement of the median I.Q. Scores and ranges in the subject-matter ability groups in Social Science.

Placement & Major Variation of each Placement	No. Boys	No. Girls	Total Boys & Girls	Med. I.Q. Boys	Med. I.Q. Girls	Total Med. I.Q.	Low I.Q.	High I.Q.
Gp. I (Remained)	17	28	45	102	98	102	91	119
Gp. I (to gp. II)	3	4	7	98	99.5	98	90	110
Gp. II (Remained)	40	71	111	111	111	111	88	132
Gp. II (to Gp. I)	14	1	15	107.5	99	107	90	111
Gp. II (to gp. III)	3	6	9	121	115.5	116	106	134
Gp. III (Remained)	29	48	77	122	120.5	121	104	135
Gp. III (to gp. II)	5	3	8	118	103	109	107	125
Gp. III (to gp. IV)	4	5	9	121	129	125	108	130



TABLE 7.--Summation by placement and major variations of each placement of the median 6th grade grade-equivalent scores, median 9th grade Verbal Reasoning test percentile ranks, and median 11th grade Verbal Reasoning test percentile ranks in subject-matter ability groups in Social Science

Placement & Major Variation of each Placement	Number of boys	Number of girls	Number of boys and girls	Med. 6th grade GE (boys)	Med. 6th grade GE (girls)	Total Median 6th grade GE	Med. 9th grade V. R. (boys)	Med. 9th grade V. R. (girls)	Total Median 9th grade V. R.	Med. 11th grade V. R. (boys)	Med. 11th grade V. R. (girls)	Total 11th grade Med. boys & girls
Gp. I (Remained)	17	28	45	6.2	6.05	6.1	50	15	25	29	16	23
Gp. I (to gp. II)	3	4	7	6.7	6.4	6.7	20	15	15	42	28.5	37
Gp. II (Remained)	40	71	111	7.95	7.5	7.6	70	60	65	65	65	65
Gp. II (to gp. I)	14	1	15	6.1	6.7	6.2	60	50	60	47	43	47
Gp. II (to gp. III)	3	6	9	8.4	9.7	9.5	75	77.5	75	67	69.5	69.5
Gp. III (Remained)	29	48	77	9.35	9.4	9.4	90	90	90	87	89	89
Gp. III (to gp. II)	5	3	8	8.7	8.3	8.5	85	75	84	83	75	79
Gp. III (to gp. IV)	4	5	9	8.65	10.3	10.0	95	95	95	91	97	95

TABLE 8.--Summation by placement and major variation of each placement of the ranges for the 6th grade grade-equivalent scores, 9th grade Verbal Reasoning test percentile ranks, and 11th grade Verbal Reasoning test percentile ranks in subject matter ability groups in Social Science.

Placement & Major Variation of each Placement	6th Grade Grade-Equivalent		9th Gr. Verbal Reasoning Percentile Ranks		11th Grade Verbal Reasoning %tile Ranks	
	Low	High	Low	High	Low	High
Gp. I (Remained)	3.6	9.0	03	90	02	77
Gp. I (to Gp. II)	4.2	8.5	03	75	14	53
Gp. II (Remained)	4.9	10.5	10	99	09	99
Gp. II (to Gp. I)	5.6	7.8	05	90	14	92
Gp. II (to Gp. III)	7.3	10.8	10	95	58	81
Gp. III (Remained)	6.7	12.2	55	99	29	99
Gp. III (to Gp. II)	7.0	8.9	50	97	39	92
Gp. III (to Gp. IV)	8.6	10.5	75	99	42	99

## CHAPTER V

### SUMMARIES, EVALUATIONS, AND CONCLUSIONS

This study was described in terms of the characteristics and movement of ability groups in English and Social Science. They are described in detail in Chapter III and Chapter IV.

#### Summary and Evaluation of the Ability Groups in English

Springfield High School had six subject-matter ability groups in English. These groups were a remedial group (group I), a low group (group II), an average group (group III), an above average-to-high group (group IV), a high group (group V), and an accelerated college placement group (group VI). Group VI was not treated as a separate entity, but will be described as it was in Chapter III as a movement from another group.

The remedial group was characterized by median I.Q. and 6th grade grade-equivalent scores and 9th and 11th grade Verbal Reasoning tests median percentile ranks that were lower than any placement or movement in English, except when compared with the low group. The remedial placement of thirteen students had a median I.Q. score higher than that of the low group and a 6th grade grade-equivalent score equal to that of the low group. The range of scores and percentile ranks varied widely, with some at the low extreme for the entire population of the study, while others were

comparable with those of students placed in the high group. Movement was complete from the remedial group to the low group by the first semester of the 11th grade. Two students were moved beyond the low group to the average group with scores at the low extreme of the distribution. The majority of grades received were "D's." No "A" or "B" grades were received before or after movement. The grades received were comparable before and after movement.

On the basis of evaluation of the remedial group, the following conditions were found.

- (a) Test medians typified the group as the lowest in ability in English.
- (b) Some students were not placed because of ability characteristics.
- (c) Movement was initiated with no indication for movement.
- (d) Low grades were characteristic of the group.

The placement in the low group received median I.Q. and 6th grade grade-equivalent scores and median 9th and 11th grade Verbal Reasoning tests percentile ranks lower than any of the other groups, except for those placed in the remedial group. The median I.Q. and 6th grade grade-equivalent scores, of those who moved from the low group to the average group, were slightly higher than those who remained in the low group. Students who moved in different variations had scores and percentile ranks slightly above or below the medians of the low group.

Twenty-six per cent of students underwent movement for the semester showing the largest deviation from placement. Of this number, seventy-five per cent had been moved by the first semester of the 11th grade.

The thirty-seven students who remained in their placement, received a majority of "D" grades. For five semesters of work, they received no "A's" and four "B's." The sixteen students who moved to the average group received a majority of "C" grades before and after movement. For five semesters they had received one "A," which was in the low group before movement, and no "E's."

The evaluation of the low group indicated the following conditions.

- (a) Test medians indicated this group was lower than the higher-ranked ability groups.
- (b) Some students were not placed or moved because of ability characteristics on test results.
- (c) Movement was initiated by grades.
- (d) Movement was experienced by approximately one-fourth of the students.
- (e) Approximately three-fourths of the movement was initiated by the first semester of the 11th grade.
- (f) Low grades are a characteristic of the low group.

The students placed in the average group had median I.Q. and 6th grade grade-equivalent scores and median percentile ranks on the 9th and 11th grade Verbal Reasoning tests which characterized them as being rated higher than those of the remedial or low group, but below those of the

above average-to-high and high groups. The students' medians, of those who moved to the above average-to-high group, were above those of the students who remained in the average group. The students moved to the low group had medians below those students who remained in the average group, and also had three of four medians that were below those of the students who remained in the low group. The test characteristics were varied when the students who moved from the average group were compared with students who remained in the original placement. Scores and percentile ranks varied both above and below the medians. Scores and percentile ranks of individual students of the placement approached the extreme lows and extreme highs for the test results of the entire populations for the study.

The second semester of the 11th grade indicated twenty-five per cent alteration in movement from original placement. There was more deviation in movement for this semester than any other; but seventy-four per cent of movement was initiated by the first semester of the 11th grade.

The type of grades received were indicative of the group. The seventy-five students who remained in the average group received a majority of "C" grades. They received no "A" grades for five semesters of work. Grades also indicated movement. The eleven students who were moved to the low group received a majority of "D" grades. They had no "A" or "B" grades. The fourteen students who moved to the above

average-to-high group received a majority of "B" grades. They received three "A" grades and no "E" grades.

An evaluation of the placement in the average group indicated that the following conditions were prevalent.

- (a) Test medians indicated the average group was sequential in placement.
- (b) Movement was initiated by grades.
- (c) Individual students were not placed or moved because of ability characteristics of test results.
- (d) Movement was accomplished by approximately one-fourth of the students.
- (e) Approximately three-fourths of movement was accomplished by the 1st semester of the 11th grade.
- (f) Average grades were characteristic of the average group.

The median I. Q. and 6th grade grade-equivalent scores and percentile ranks on the 9th and 11th grade Verbal Reasoning tests of the above average-to-high group were higher than those of the remedial, low, and average groups, but were lower than those of the high group. The fourteen students who moved to a lower ability group had medians lower than the students who remained in the placement; while the twenty-two students who moved to a higher ability group, had higher medians. Individual scores and percentile ranks varied with some both above and below the medians of the original placement and its movements. Some individual scores and percentile ranks were also comparable to scores and ranks of students in all ability groups.

The semester showing the greatest alteration of movement was the first of the 12th grade. Forty per cent of the students experienced movement for that semester. Of this movement, seventy-four per cent was accomplished by the first semester of the 11th grade.

The above average-to-high group received a majority of "B" grades. Only one "A" grade, one "D" grade, and one "E" grade was received for five semesters of work. The majority of grades received by the students, who moved to the average group, were "C" grades. No "A" grades or "E" grades were received by them. The majority of grades received by the students moving to the high group were "B" grades; but thirty per cent of the grades they received were "A" grades.

In the evaluation of the above average-to-high group, the following conditions existed.

- (a) All test medians indicated the above average-to-high group was sequential in placement.
- (b) Individual students were not moved because of ability characteristics.
- (c) Movement was initiated by grades.
- (d) Movement was accomplished by approximately two-fifths of the students.
- (e) Of the students moving, three-fourths of movement was initiated by the first semester of the 11th grade.
- (f) Good grades are a characteristic of the group.

The twenty-four students who remained in the high group had median I.Q. and 6th grade grade-equivalent scores and percentile ranks on the 9th and 11th grade Verbal



Reasoning tests which were higher than those of the other groups. The eight students who moved to a lower ability group had median scores and percentile ranks or scores which were slightly lower than those who remained in the placement. The two students who moved to the accelerated college placement had scores and percentile ranks approximately the same as those students who remained in the high group. Individual scores and percentile ranks were both above and below the medians of the high group for students who moved from the high group. Individual scores and percentile ranks were comparable with many in the other groups.

The first semester of the 12th grade showed the period of the most alteration of movement. Thirty-three per cent were moved for that semester. Fifty-eight per cent moved by the first semester of the 11th grade.

The majority of the grades received by the high group were "B" grades for five semesters of work, but forty per cent of the grades received by them were "A" grades. The students who moved to the above average-to-high group also received a majority of "B" grades, and thirty per cent of the grades they received were "A" grades. The students placed in accelerated college placement were comparable to those of the high group.

On the basis of the evaluation, the following conditions were found.

- (a) The medians of the test results indicate that the high group had the highest medians of all the ability groups in English.

- (b) Grades did not indicate movement except in isolated cases.
- (c) Some students did not move because of ability characteristics.
- (d) Movement was accomplished by approximately one-third of the students.
- (e) Of the students moving, slightly more than one-half had moved by the 1st semester of the 11th grade.

Summary and Evaluation of the Ability Groups  
in Social Science

Students enrolled in Social Science could be placed or moved in four subject-matter ability groups. The groups were a low group (group I), an average group (group II), a high group (group III), or an accelerated college placement group (group IV). Group IV is discussed as a movement from another group.

The low groups' medians for the I.Q. scores, 6th grade grade-equivalent scores, and 9th and 11th grade Verbal Reasoning tests percentile ranks were lower than the other ability groups. The seven students who moved to the average group had two of the four medians that were higher and two medians that were lower than those from the group from which they moved. Individual scores and percentile ranks of students in variations from placement were both above and below the medians of the students in the original placement. Individual scores and percentile ranks were also comparable to the test results of students in other groups.

The second semester of the 11th grade showed the most deviations of movement. Fourteen per cent moved during that semester. Of the movement, eighty-eight per cent of movement was accomplished by the first semester of the 11th grade.

The majority of grades received for five semesters of work by the forty-five students who remained in the low group were "C's" and "D's." No "A" grades were received. The seven students who moved to the average group received a majority of "C" grades for five semesters of work. They received no "A" or "E" grades.

An evaluation of this group shows the following conditions were prevalent for the low group.

- (a) Test medians indicate that the low group had lower test characteristics.
- (b) Individual students were not placed or moved because of test results.
- (c) Movement was indicated only slightly by grades.
- (d) Approximately one-seventh of the students were moved.
- (e) Approximately four-fifths of the movement was initiated by the first semester of the 11th grade.
- (f) Low grades were a characteristic of the group.

The average group had median I. Q. scores, 6th grade grade-equivalent scores, and percentile ranks on the 9th and 11th grade Verbal Reasoning tests which were above those of the low group and below those of the high group. The fifteen students who moved to the low group had lower medians,

when compared to the 111 students who remained in the average group; and the nine students who moved to the high group had higher medians. Individuals who had variations from placement had scores which varied both above and below the medians of the students who remained in the average group. Individual students had scores and percentile ranks which were comparable to the test results of students in the other placement.

The first semester of the 12th grade had the largest amount of alteration of movement. There was a twenty-one per cent deviation from placement for that semester. Forty per cent of the movement was initiated by the first semester of the 11th grade.

The students who remained in the average group received a majority of "C" grades for five semesters of work. Only six "A" grades and two "E" grades were received. The students who moved to the low group received a majority of "D" grades. No "A" grades and one "E" grade was received. The students who moved to the high group received a majority of "B" grades, and no "D" or "E" grades were received.

The evaluation of the average placement found the following conditions to exist.

- (a) Median scores and percentile ranks indicated the average group was sequential in test characteristics.
- (b) Individual students were not placed or moved because of test characteristics.
- (c) Movement was accompanied by low or high grades.

- (d) Approximately one-fifth of the students moved to another placement.
- (e) Approximately two-fifths of movement was initiated by the first semester of the 11th grade.
- (f) Average grades were received by the average group.

The high group had median I. Q. scores, 6th grade grade-equivalent scores, and 9th and 11th grade percentile ranks on the Verbal Reasoning tests which were higher than those of the low group and the average group. The nine students who moved to the accelerated college placement had higher medians than the seventy-seven students who remained in the high placement and the eight students who moved to the average group had lower medians. The individuals who varied from the original placement had scores and percentile ranks which varied both above and below those of the students who remained in their original placement. Individual scores and percentile ranks were also comparable to individual scores and percentile ranks for students in the other two groups.

The semester with the largest amount of alterations was the first semester of the 11th grade. Thirteen per cent were involved in movement at this time. Only one student was moved by the first semester of the 11th grade.

The students, who were placed in the high group and remained, received a majority of "B" grades; but thirty per cent of the grades received were "A's." The majority of grades received by the students who moved to the

accelerated college placement group were "B's" and "C's." Twenty-eight per cent of the grades they received were "A's." They received no "D" or "E" grades. The students who were moved to the average group received a majority of "B" and "C" grades. They received on "A" and no "E's."

The evaluation of the high group found the following conditions to exist.

- (a) Median scores and percentile ranks indicated that the high group had the highest medians.
- (b) Individual students were not placed or moved because of test characteristics.
- (c) Movement was indicated only slightly by grades.
- (d) Approximately one-eighth of the students moved to another placement.
- (e) Good to excellent grades were indicators of the high group.

#### General Summary of the Study

It would be agreed by most educators that true homogeneous ability groups would be most difficult to assemble. Students show great individual differences. It does seem to the writer that if ability grouping is used, some criteria should be used for assembly. The junior high school subject-matter teachers, who recommend group placement in all English groups and approximately half of the Social Science groups, could not be expected to make correct evaluations of each student's abilities. In this study, the variations in the ability groups within subject-matter was definite and sequential in their ranking, yet many of the differences were slight. The range of the scores and

percentile ranks were widely distributed for each ability group and its movement. Individual test characteristics of students in a particular group were comparable to scores and percentile ranks of students in any of the other groups.

Grades are usually considered poor criteria for evaluation, but in this study they were used as an aid in the clarification of the group characteristics, and as a characteristic of vacillating movement. In this study, grades received were compatible with the ranking of the groups. Students in a low group could expect low grades; those in an average group could expect average grades, and those in a high group could expect good grades. Grades were indicative of movement. When a student received grades higher than those of his peer placement, he was moved to a higher group, when he received lower grades, he was moved to a lower group. The girls in the study tended to receive higher grades than did the boys.

A student should have flexibility in movement. He should not have to resign himself to the fact that he is forever characterized as a "dull," or "average," or "bright," student. Approximately one-fourth of the students were moved at some time in English, but approximately three-fourths of the movement was completed by the first semester of the 11th grade. Approximately one-seventh of all Social Science students moved at some time. Slightly more than one-half had moved before the second semester of the 11th grade. In ratio comparisons, more boys tended to move to a lower

placement than girls, and more girls tended to move to a higher placement than boys.

### Conclusions

On the basis of this research paper, the following conclusions are presented.

- (a) Students were not grouped by test characteristics.
- (b) Students were grouped on performance rather than on the ability to perform.
- (c) Groups were an indication of grades received.
- (d) Once grouped by the attending school personnel, little movement occurs.



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